

RD-R179 364

DAVID AND GOLIATH - CAN AIRBORNE INFANTRY DEFEND
AGAINST ARMOR IN CENTRAL EUROPE? (U) ARMY COMMAND AND
GENERAL STAFF COLL FORT LEAVENWORTH KS SCHOOL

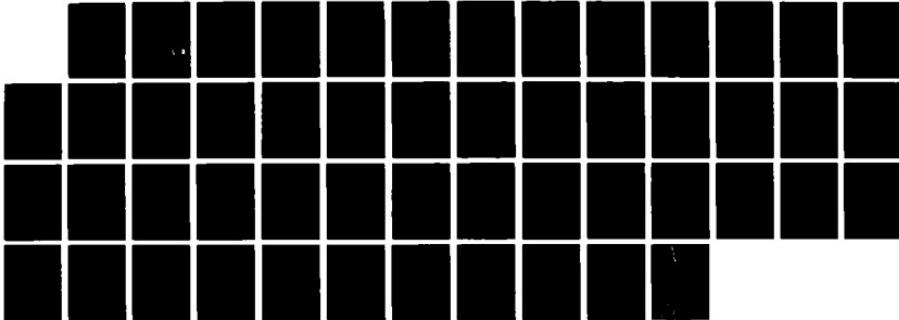
1/1

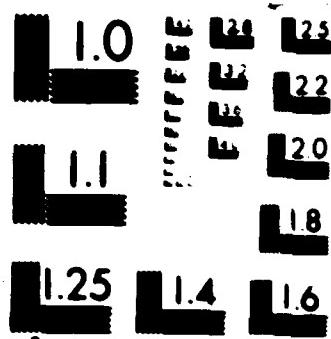
UNCLASSIFIED

J O RODRIGUEZ 17 NOV 86

F/B 15/7

NL





COPY RESOLUTION TEST CHART

DTIC FILE COPY

(2)

AD-A179 364

**David and Goliath - Can Airborne Infantry Defend Against
Armor in Central Europe?**

by

**Major Joseph O. Rodriguez, Jr.
Infantry**

**School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas**

17 November 1986

**DTIC
ELECTED
APR 20 1987
S E D**

Approved for public release; distribution is unlimited.

87-2108

87 4

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

Form Approved
OMB No 0704-0188
Exp Date Jun 30, 1986

REPORT DOCUMENTATION PAGE					
1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED		1b RESTRICTIVE MARKINGS			
2a SECURITY CLASSIFICATION AUTHORITY		3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited			
2b DECLASSIFICATION/DOWNGRADING SCHEDULE					
4 PERFORMING ORGANIZATION REPORT NUMBER(S)		5 MONITORING ORGANIZATION REPORT NUMBER(S)			
6a NAME OF PERFORMING ORGANIZATION School of Advanced Military Studies, USAC&GSC	6b OFFICE SYMBOL (If applicable) ATZL-SWV	7a NAME OF MONITORING ORGANIZATION			
6c ADDRESS (City, State, and ZIP Code) Fort Leavenworth, Kansas 66027-6900		7b ADDRESS (City, State, and ZIP Code)			
8a NAME OF FUNDING / SPONSORING ORGANIZATION	8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER			
8c ADDRESS (City, State, and ZIP Code)		10. SOURCE OF FUNDING NUMBERS			
		PROGRAM ELEMENT NO.	PROJECT NO	TASK NO	WORK UNIT ACCESSION NO
11 TITLE (Include Security Classification) David and Goliath - Can Airborne Infantry Defend Against Armor in Central Europe? (U)					
12 PERSONAL AUTHOR(S) Major Joseph O. Rodriguez, Jr., USA					
13a TYPE OF REPORT Monograph	13b TIME COVERED FROM _____ TO _____	14 DATE OF REPORT (Year, Month, Day) 86/11/17		15. PAGE COUNT 43	
16 SUPPLEMENTARY NOTATION					
17 COSATI CODES		18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number) light infantry airborne antiarmor defense airborne infantry indirect approach antiarmor defense			
19 ABSTRACT (Continue on reverse if necessary and identify by block number) This monograph examines the viability of the 82d Airborne Division's Antiarmor Defense Concept in the Central European environment. A comparison of the Airborne Antiarmor Defense (AAD) is made with concepts for infantry defense against armor espoused by B.H. Liddell Hart such as the dynamic and archipelago defenses.					
<p>This paper examines the historical perspective of five select battles where a predominantly infantry force was successful in defending against armor. The battles examined are Medenine, El Alamein, Targul Frumos, Kursk and Sicily. Throughout the historical review there are analyses of the relationships between the AAD and Liddell Hart's indirect approach.</p>					
<p>The monograph concludes with doctrinal, training, and materiel implications pertaining to infantry defense in the AAD against armor on the modern battlefield.</p>					
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS		21 ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED			
22a NAME OF RESPONSIBLE INDIVIDUAL MAJ Joseph O. Rodriguez, Jr.		22b TELEPHONE (Include Area Code) (913) 684-2138		22c OFFICE SYMBOL ATZL-SWV	

ABSTRACT

DAVID AND GOLIATH - CAN AIRBORNE INFANTRY DEFEND AGAINST ARMOR IN CENTRAL EUROPE?

Major Joseph O. Rodriguez, Jr., USA, 43 pages

This study examines the viability of the 82d Airborne Division's Antiarmor Defense Concept in the Central European environment. An overview of the Airborne Antiarmor Defense (AAD) is provided for those who are not familiar with the concept. This monograph compares the AAD with concepts for infantry defense against armor espoused by B.H. Liddell Hart such as the dynamic and archipelago defenses.

This monograph examines the historical perspective of five select battles where a predominantly infantry force was successful in defending against armor and then seeks to determine those factors that resulted in victory. The battles examined are Medenine, El Alamein, Targui Primos, Kursk, and Sicily. Throughout the historical review there are analyses of the relationships between the AAD and Liddell Hart's indirect approach.

This monograph concludes with doctrinal, training, and materiel implications pertaining to infantry defense (using the AAD) against armor. The conclusion is that the 82d Airborne Division Antiarmor Defense Concept will work in Central Europe, however, there are some doctrinal and training deficiencies which need to be noted.

**David and Goliath - Can Airborne Infantry Defend Against
Armor in Central Europe?**

by

**Major Joseph O. Rodriguez, Jr.
Infantry**

**School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas**

17 November 1986

Approved for public release; distribution is unlimited.

School of Advanced Military Studies
Monograph Approval

Name of Student: Major Joseph O. Rodriguez, Jr.
Title of Monograph: David and Goliath - Can Airborne
Infantry Defend Against Armor in
Central Europe?

Approved by:

Dale E. Pincke
Lieutenant Colonel Dale E. Pincke, M.S.

Monograph Director

Richard H. Sinnreich
Colonel Richard H. Sinnreich, M.A.

Director, School of
Advanced Military
Studies

Philip J. Brookes
Philip J. Brookes, Ph.D.

Director, Graduate
Degree Programs

Accepted this 15th day of December 1986.



Accession For	
NTIS GRA&I	
DTIC TAB	
Unannounced	
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

ABSTRACT

DAVID AND GOLIATH - CAN AIRBORNE INFANTRY DEPEND AGAINST ARMOR IN CENTRAL EUROPE?

Major Joseph O. Rodriguez, Jr., USA, 43 pages

L- > This study examines the viability of the 82d Airborne Division's Antiarmor Defense Concept in the Central European environment. An overview of the Airborne Antiarmor Defense (AAD) is provided for those who are not familiar with the concept. This monograph compares the AAD with concepts for infantry defense against armor espoused by B.H. Liddell Hart such as the dynamic and archipelago defenses.

This monograph examines the historical perspective of five select battles where a predominantly infantry force was successful in defending against armor and then seeks to determine those factors that resulted in victory. The battles examined are Medenine, El Alamein, Targul Frumos, Kursk, and Sicily. Throughout the historical review there are analyses of the relationships between the AAD and Liddell Hart's indirect approach.

This monograph concludes with doctrinal, training, and materiel implications pertaining to infantry defense (using the AAD) against armor. The conclusion is that the 82d Airborne Division Antiarmor Defense Concept will work in Central Europe, however there are some doctrinal and training deficiencies which need to be noted.

complete the report. It is intended
for publication.

Table of Contents

Section	Page
I. Introduction	1
II. Description of the 82d Airborne Division Antiarmor Defense Concept.....	4
III. Historical Perspective and Analysis	
A. Battle of Medenine, March 1943.....	7
B. Battle of El Alamein, July 1942.....	10
C. Battle of Targui Frumos, May 1944.....	14
D. Battle of Kursk, July 1943.....	16
E. Battle of Sicily, July, 1943.....	19
F. Key Lessons Applicable to the Antiarmor Defense.....	22
IV. Doctrinal Implications.....	26
V. Training Implications.....	28
VI. Materiel Implications.....	30
VII. Conclusion.....	32
Sketches (Figures 1-6).....	35
Endnotes.....	38
Bibliography.....	42

I. INTRODUCTION

With no weapons larger than a seventy-five mm. gun, and for the most part armed only with Brens, gammon bombs and PIATs [Projector, Infantry, Anti-Tank], which can be carried and handled by one man unaided, they attacked Tiger tanks weighing fifty-six tons, and self-propelled guns with a range of seven miles. Of these they destroyed or put out of action some sixty. The number of enemy killed or wounded ... is not less than 7,000 ... Now these things befall the British 1st Airborne Division at Arnhem. [1]

This quote summarizes one of the many valorous actions in which an infantry unit was forced to fight an armor-heavy force. Since the mid-1930s, the major world powers (U.S., Soviet Union, Britain and Germany) have used airborne operations with varying degrees of success. In many if not most World War II airborne operations airborne forces had to defend against armored forces once on the ground. Some of these battles were very successful such as the actions of the 101st and 82nd Airborne Divisions in the Battle of the Bulge and the British airborne units in the Normandy Invasion. Other battles such as that fought by the British 1st Airborne Division at Arnhem during Operation MARKET-GARDEN were not so successful. Today, there is much discussion, thought, and controversy concerning the 82nd Airborne Division's Antiarmor Defense (AAD) Concept and the Division's role in the mid-to-high intensity European battlefield.

The purpose of this paper is to determine whether the 82d Airborne Division's Antiarmor Defense Concept can be successful against a Soviet-type armored force in the Central European, NATO environment. Is the AAD a viable concept? Are there historical precedents for this type of concept? What are the requirements for making the AAD a viable concept? These are some of the issues this paper will address. The methodology for this study consists

of obtaining evidence from the following three source categories: the historical perspective of select airborne and infantry operations against an armored force; current doctrine on the employment of an airborne unit in a mid-to-high intensity environment; and lastly, an examination of current technological and materiel requirements. Questions to be addressed in the analysis are listed below:

- 1) Is the AAD Concept historically valid?
- 2) What are the training requirements?
- 3) What are the antiarmor weapons systems requirements?
- 4) Is our infantry antiarmor doctrine adequate?

The focus of this study will be on the airborne brigade in the antiarmor defense because of the nature of the 82nd Airborne Division's worldwide, no-notice contingency missions. The Division has to be prepared at all times to conduct an antiarmor defense even though this is not the optimal mission for an airborne unit according to FM 7-30, Infantry, Airborne and Air Assault Brigade Operations. [2] However, the Division begins with the premise that the world-wide threat and the strategic mobility of light infantry units requires every light infantryman to meet and defeat threat armor with or without the help of friendly heavy forces. [3] LTG Lindsay said recently,

Unlike any other equivalent unit in the Army, XVIII Airborne Corps has contingency responsibilities and operational plans in support of five unified commands. The wide range of geographical and geopolitical environments for which we are responsible requires us to be prepared for immediate deployment anywhere in the world, for combat operations at all levels of conflict. [4]

Therefore, the Division has recognized the serious implications of this worldwide mission to fight at any level of

conflict and has committed a major portion of its training effort and resources toward preparing for the worst case - a mid-to-high intensity antiarmor mission in the Central European, NATO environment. Recognizing the critical nature of the antiarmor mission, the 82nd published the Airborne Antiarmor Defense Handbook in 1977 (updated in 1980 and 1984). This handbook provides an operational concept and evolving doctrine that will optimize the ability of an airborne unit to defend against armor. The applications of this concept are far-ranging and may go well beyond the 82nd Airborne Division applying to other types of infantry as well. Therefore, because of their worldwide, no-notice, contingency requirements, the 82nd Airborne Division has been forced to confront and address the thorny issues of the infantry versus tank dilemma and develop a concept for fighting this battle.

II. The 82d Airborne Division Antiarmor Defense Concept

What exactly is the Airborne Antiarmor Defense (AAD)?

According to the AAD Handbook, the AAD has evolved from a concept espoused by J.F.C. Fuller and B.H. Liddell Hart called the Archipelago Defense which recognized the inherent problems of defending with infantry against an armored force. The 1977 AAD Handbook defines the concept as follows:

.... concept of defense against armored thrusts by light infantry units is the Archipelago Defense. In this defense, infantry forces occupy a chain of mutually supporting, tank proof islands of resistance in depth. In addition to destroying armored vehicles as they pass by, these strong points serve to break up the armored attack by holding up infantry, artillery, air defense artillery, and service support units following the armor. It was not until the advent of the antitank guided missile and its proven capability in the October 1973 War, that the Archipelago defense became a truly viable concept for the infantry. [5]

The AAD is therefore built upon this concept of a defense in depth which seeks to destroy the combined arms integrity of the enemy armored force as he passes through the main battle area. In this defense, antiarmor weapons systems are deployed laterally and in depth throughout the battle area, oriented on carefully selected armor engagement areas and are protected by infantry forces of squad to platoon size. [6] Figure 1 depicts an operational schematic of the divisional AAD. Figure 2 depicts the airborne battalion in the AAD as part of a brigade operation. The AAD allows enemy armored units to enter into the depths of the main battle area whereupon all antiarmor systems such as antitank guided missiles (ATGMs), attack helicopters, Sheridan tanks, artillery (COPPERHEAD and Dual Purpose Improved Conventional Munitions), tactical air/close air support, Dragon medium antitank weapons, light antitank weapons (LAWs and Swedish AT-4s), and

mines are used in a coordinated fashion to disrupt, attrit and destroy the enemy as he passes through the engagement areas. In the AAD, great care is taken to position antiaarmor systems in concealed and protected positions so they can engage enemy armored vehicles from the flank, oblique or rear thus taking maximum advantage of the element of surprise. [7] Antiaarmor positions are dispersed but mutually supporting and seek to maximize stand off range wherever possible. As in any position oriented defense-in-depth there must be a reduction in the size of the defended front. In the AAD, maximum use is made of reverse slope defenses and the siting of antiaarmor systems on armor restrictive terrain with infantry providing all-around security through primary, alternate and supplementary prepared fighting positions. In effect, the AAD is a giant ambush which maximizes the advantages of surprise and infantry favorable terrain in order to strike the enemy's weakness (his flank and rear), disrupt the timing of his attack, destroy the integrity of his combined arms formations, and finally destroy his armor once stripped of its infantry and supporting arms. The challenge for the infantry commander is to exploit and maximize the capabilities of his antiaarmor systems while overcoming his problems of limited mobility and protection. [8] The enemy's problem is twofold. He can try to fight his way through a prepared defense on armor restrictive terrain which will be a significant diversion of effort. If he attempts to defeat the AAD in detail then this will definitely slow his momentum and require him to commit significant numbers of infantry to this effort. As he commits forces against the "strongpoint" he exposes his flanks and rear to other mutually supporting positions. If he seeks to force his way quickly through

the defense then he will continually be attrited and weakened as he proceeds. Secondly, if he chooses to bypass the defense then he also loses some of the momentum of the attack and is forced to confront other forces, possibly heavy, in the adjacent sectors.

In summary, the 82nd Airborne Division realizes that the ideal areas for employment of infantry forces against armor are in cities, urban sprawl areas and other armor restrictive terrain. However, their mission may very well require them to defend against armor in terrain that is not ideal, hence the infantryman must be prepared to meet and defeat armor on that terrain. [9] At this point it is beneficial to look at history and examine the historical perspective of successful infantry defenses against armor and from this examination attempt to discover those factors that enabled them to succeed.

III. HISTORICAL PERSPECTIVE

The purpose of this historical perspective is to review five select battles in which an infantry force was successful against an opposing armor-heavy force and then draw some conclusions as to what caused the infantry unit to achieve (the resulting effect) success. The five vignettes selected are:

The Battle of Medenine, March 1943

The First Battle of El Alamein, July 1942

The Battle of Targui Primos, May 1944

The Kursk Bulge Defense, July 1943

The Battle of Sicily, July 1943

The five vignettes cover a wide range of defensive actions involving infantry versus armor from July 1942 to the last year of the war. These battles were chosen because each one used a form of the indirect approach combined with offensive-oriented counterattacks against an armor force. Following each vignette is an analysis to determine what factors caused the battle to be successful and how it compares or deviates from the AAD concept.

Battle of Medenine, March, 1943

A good example of an 'archipelago' type, defense-in-depth was that conducted by Montgomery's 51st Highland and 2d New Zealand Infantry Divisions at the Battle of Medenine in North Africa. This battle pitted the famous Deutsches Afrika Korps (consisting of the 10, 15, and 21 Panzer Divisions) and an Italian/German task force called Column Bari against the British Eighth Army that was defending in depth forward of the village of Medenine. Montgomery

chose to defend with his infantry divisions forward and his armored units to the rear in depth (see figure 3 for a sketch of the battle). The commander of the 51st Highland Division described his method of defense as follows:

After a very thorough recce I decided...where I would put my three brigades. One would be behind the wadi, the middle one in front of it, and the left hand brigade astride it. Each brigade would put itself in a strongly defended position sited for all around defense. Inside each perimeter would go a regiment of field artillery and a number of antitank guns...Finally where there were possible tank crossing places over the wadi and between the three brigade localities, I decided to dig-in anti-tank and machinegun detachments hidden on the near bank...I was determined that the three localities should fight it out to the end. [10]

To the south of the 51st, covering the approaches to Medenine, was the New Zealand Division supported by the 4th Light Armored Brigade. The New Zealand Division was set up much the same as the 51st, with great emphasis on the siting of the 6 pounder antitank guns. The 6 pounder was the main stay of the British antitank defense with an effective range of 1,500 meters. Behind these two infantry divisions were the 8th Armored Brigade and the 7th Armored Division. [11]

On March 2nd, Rommel launched his offensive toward Medenine. As the 10th Panzer Division approached, the New Zealanders held their fire until the tanks were within 400 meters of the friendly positions. As the tank column began to flank the right of their positions they opened up with 6 pounders and quickly destroyed the five lead tanks. The German infantry, having dismounted, was mauled by artillery and mortar fires and the remaining tanks not being able to locate the source of the antitank fires decided to withdraw from battle. In the center, the 21st Panzer Division was diverted north by a dummy minefield (in front of the 201 Brigade)

exposing their flanks to antitank gunners of the 2d Scots Guards who quickly knocked out 12 tanks and disabled three more. [12] The most spectacular action was conducted by the 1/7th Queens of the 131 Brigade. Having carefully sited their sixteen antitank (AT) guns in depth and in mutually supporting and concealed positions they allowed the panzers to close right up to the defensive lines. The guns were placed in defilade in order to engage tanks broadside as they presented a larger and more vulnerable target. [13] By fixing the infantry with machinegun fire and artillery at 1000 yards out they were able to fight the panzers with their AT guns using close-range flanking fires. Most tank fighting was done at 200 to 400 yards and the 1/7th Queens was able to destroy 27 panzers allowing only three to penetrate through the defense. In all, Rommel lost over 50 tanks in this battle - mostly to the effective and skillful use of the 6 pounder AT guns and infantry. Of all Montgomery's armor, only one squadron of tanks was ever involved in the battle.[14] That night Rommel wrote in his diary, "A great gloom settled over us all." [15] Montgomery was overjoyed with the results and credited the tactical siting and use of the AT guns for the tremendous success.[16]

Many lessons can be drawn from this battle but only those that pertain to the AAD will be addressed here. First, the importance of a good reconnaissance and positioning of AT guns is seen here. AT guns were sited in depth in concealed, dug-in, mutually supporting positions that allowed for flanking fires into the kill zones. Friendly infantry was positioned to protect AT positions and used to strip enemy infantry from his tanks by using indirect and small arms fires. The defenders had time to prepare

good defensive positions and they were willing to let up to a platoon of panzers close to within 200-400 meters in order to achieve surprise and coordinated flanking fires by all AT systems, from the 6 pounder to the short-range PIAT. Effective use was made of dummy and actual minefields to divert the tanks into kill zones and the deadly flanking fires by the AT guns. In essence, they were able to 'shape' the battlefield and destroy the combined arms integrity of the panzer divisions. Lastly, the infantry had a trusted and proven AT gun in the 6 pounder. They were confident that their AT guns could defeat German armor from a well-prepared defensive position capitalizing on flanking fires. This confidence enabled them to stand their ground and fight three combat-hardened panzer divisions.

EL ALAMEIN, JULY 1942

In July 1942, General Auchinleck, commander of the British Eighth Army used a rather unique type of 'checkered' defense to defeat Rommel at El Alamein. His deputy was Maj.Gen. Eric Dorman-Smith, a friend and disciple of B.H. Liddell Hart and a strong advocate of the indirect approach. A month prior, the Eighth Army under Gen. Ritchie's command had attempted a linear defense of the Gazala-Bir Hacheim Line and on May 27th, Rommel once again proved that he could beat the linear defense causing Ritchie to withdraw half the army to the Egyptian frontier. Gen. Auchinleck, now in command, was determined not to make the same mistake at Alamein so he abandoned the unsuitable linear positions that had been prepared in 1941 in favor of a checkered defense in depth (see sketch at Figure 4).[17] In short, the checkered defense consisted of many self contained checkered localities each one 10,000 yards apart

laterally and in depth. Each checker was manned by two infantry battalions and one 25 pounder battery. A division with three brigades therefore had three checkers in its area. The idea was to have each checker as widely separated as possible but providing for mutually supporting artillery fires and capable of reinforcing movement in its area. This concept required a conscious decision to abandon the rigid divisional front idea as laid down in British field service regulations.[18] Forces not required to hold the checkers were under Gen. Auchinleck's personal command and were available to operate in the open areas between the checkers, the flanks, the front, and the rear. Inside the checkerboard the open areas were heavily mined. Under this concept, the army could fight in any direction without losing its equilibrium and as a consequence there was little chance of any one element being isolated or attacked in the rear as had happened at Gazala. Should Rommel operate against a flank or the rear, then there were the brigade-sized mobile armored and motorized reserves positioned to counterattack from the southeast. This plan incorporated an indirect approach to the defense as described by General Smith below:

This plan embraced a three-way application of the indirect approach - the checker being designed to meet the enemy in an indirect way, while both the heavy armoured group and the light mobile group were...capable of executing an indirect approach on the enemy's flank and rear... [19]

This defense proved to be very successful in repelling Rommel's numerous attacks during July and then again in September. In attacking this defense Rommel lost several hundred tanks which turned the initiative and set the stage for the British offensive. At the tactical level Auchinleck's units made maximum use of

prepared AT gun positions in depth as was done so effectively later at Medenine. On the evening of 16 July, the 5th Brigade of the 4th Indian Division had tremendous success using predominantly their 6 pounder AT guns against an attack by a panzer division. After three hours of night fighting they destroyed 24 tanks, 6 armored cars, 5-20 mm AA guns, 5-37 mm antitank guns, 8-75 mm field guns and 6-88 mm AA guns which had been used as AT guns.[20] In September, the Germans and Italians launched one more attack on El Alamein in which they lost another 60 tanks thus reaching their offensive culminating point and henceforth crippling the Axis offensive arm in North Africa.

In this battle at El Alamein the effectiveness of the indirect approach at both the tactical and operational levels can be seen. At the tactical level the British units used many of the same tactics that were to work so well later at Medenine -digging-in AT guns in depth, use of mines and obstacles to force the enemy into kill zones, and providing for an all-around defense capable of changing direction without loss of equilibrium. At the army level, the indirect approach was also used as the mobile reserves attacked into the flanks and rear of the attacking panzer divisions. From the highest to the lowest level the point of attack was the flank of the enemy. Auchinleck's indirect approach obviously had a profound effect on Rommel as evidenced from this diary entry.

At Alamein...Auchinleck took the initiative himself and executed his operations with deliberation and noteworthy courage. Everytime I was on the point of forcing a breakthrough... he launched an attack on the Italians elsewhere...and either penetrated uncomfortably close to our supply area, or threatened a breakthrough to the south. [21]

Auchinleck's checkered defense was essentially the same concept as the AAD, only executed at the army level. Like the AAD, it discarded the linear approach to defending in favor of strongpoints or mutually supporting pockets of resistance that were capable of attacking the enemy from unexpected directions and could defend in any direction without a loss of equilibrium. The checkered defense and the AAD both wear the enemy armor down as he pounds against pocket after pocket of resistance while simultaneously losing the combined arms integrity of the force through loss of infantry, artillery and service support assets. Maj. Gen. Smith described it as a means of indirect attack on the enemy's mental and physical freedom of action - the key is obliquity and the object of obliquity is to find the chink in the enemy's armor.[22] The AAD epitomizes B.H. Liddell Hart's concept of the indirect approach as it draws the enemy into a web-like trap of oblique, flanking, and rear antiarmor fires.

BATTLE OF TARGUL PRUMOS, 5 MAY 1944

Manteuffel's use of the Grossdeutschland Panzergrenadier Division at Targul Prumos is a good example of how a tank force can be beaten by attacking its combined arms integrity. In this battle, the Grossdeutschland consisted of two infantry regiments and one tank regiment opposing a numerically superior Soviet armored force equipped with the new heavy KV-85 tank.[23] Manteuffel prepared a defense very similar to the AAD in many respects. He chose to defend on terrain resembling a horseshoe ridge (see sketch at Figure 5) with his two infantry regiments deployed in depth throughout the basin of the horseshoe and his antitank weapons with a battery of 88 mm guns along the base of the horseshoe. His tank regiment was positioned well to the rear behind the horseshoe to be used as a counterattack force. His reconnaissance elements with two tank companies were deployed about three kilometers forward of the main positions as a covering force and were to be used as bait to draw the Russian tanks into the AT gun kill zones. On 5 May, the Russians attacked with massive artillery support and Manteuffel's covering force fell back drawing the armored formations into the southeast corner of the horseshoe. His infantry units, which were in excellent prepared and camouflaged positions, allowed the Russian tanks to pass over and through their positions and then at close range proceeded to pin down and destroy the supporting infantry. The Germans had trained and prepared for these kinds of operations by combining infantry with combat engineers into special antitank teams. The training of these teams was very impressive as described by a member of the Grossdeutschland Division:

As we had already been taught to dig foxholes in record time, we had no trouble opening a trench 150 yards long, 20 inches wide, and a yard deep. We were ordered into the trench...and forbidden to leave it, no matter what happened. Then four or five Mark lils ... crossed the trench at different speeds. The weight of these machines alone made them sink four or five inches into the crumbling ground. When their monstrous treads ploughed into the ...trench a few inches from our heads, cries of terror broke from almost all of us....We were also taught how to handle the dangerous 'panzerfaust', and how to attack tanks with magnetic mines. One had to hide in a hole until the tank came close enough...within five yards of us. Then, with the speed of desperation, we had to run straight at the terrifying monster, grab the tow hook and pull ourselves onto the hood, place the mine at the joint of the body and turret, and drop off the tank to the right... [24]

Having broken the combined arms integrity of the Russian attack and having baited the heavy tanks into the AT gun kill zones, Manteuffel then personally led his tank regiment in a counter-attack into the flank of the Russian armored formations thus breaking and repulsing the Russians with heavy losses. In this battle, the Grossdeutschland Division destroyed 350 Soviet tanks and SP guns at an exchange rate of twenty-to one.[25]

This battle demonstrates the effectiveness of three tactics that are used in the AAD. First, Manteuffel used a covering force to draw the enemy tanks into his web of antitank guns. He did not engage the enemy at maximum engagement ranges, rather his intent was to bait the enemy into the defilade fires of his AT gun positions. Secondly, he allowed, by design, for the enemy armor to pass through his infantry positions and his infantry were then able to separate the Russian infantry from the armor thus destroying the combined arms integrity of the Russian force. These tactics are some of the key lessons that U.S. Army battalions are learning at The National Training Center.[26] It is also important to note that infantrymen must be trained to fight

armor at close combat and to allow tanks to overrun their positions. The infantryman must be trained to overcome or at least manage his fear of tanks if he is expected to fight tanks in modern battle. Thirdly, Manteuffel's units maximized flanking and rear fires in order to surprise and destroy the heavily armored KV-85 tanks. At one point in the battle, Manteuffel sent out a company of tanks to stalk the KV-85s and take them in the rear.[27]

In the Battle of Targul Prumos, Manteuffel used essentially the same tactics and principles that are used in the AAD. He drew the Russian armored force into the depths of his defense whereupon his infantry attacked the enemy infantry from the flanks and rear destroying the cohesion and integrity of the combined arms attack. With the enemy infantry rendered ineffective he then blunted the nose of the penetration with his AT guns and 88 mm guns while his tank regiment counterattacked into the flank striking the decisive blow. The similarities between Manteuffel's offensive oriented defense and the AAD are very close. Granted, the airborne division does not have a tank regiment as the Grossdeutschland Division but it does have a Sheridan tank battalion and an attack helicopter battalion available to strike the decisive blow.

RUSSIAN DEFENSE OF KURSK BULGE, JULY 1943

The Russian defense of Kursk during the German offensive "CITADEL" is worth reviewing in the context of the AAD concept. While the Germans delayed their offensive for two long months in order to build up their panzer divisions the Russians proceeded to construct a layered defense in depth in the Kursk sector.[28] The Russian defense consisted of at least eight defensive belts. The forward zones were made up of a tight web of strongpoints each

consisting of three to five 76mm antitank guns, five antitank rifles, up to five mortars, one section of sappers, and one section of infantry with machineguns.[29] Groups of these strongpoints under one commander formed an antitank area. The Russian system for fire control is described as follows,

The Russian method of controlling antitank-area gunfire was reputedly copied from the Germans and refined. Known to the Germans as a 'Pakfront', it was based on the use of up to 10 well-camouflaged antitank guns under a single commander, who was responsible for concentrating their fire on a single target at a time in broadsides. The idea was to draw the attacking armor into a web of enfilade fire, which was held until the last possible moment. [30]

Supporting these antitank centers of resistance were minefields laid at an average density of 2,500 antipersonnel and 2,200 antitank mines per mile of front.[31] On 5 July, the Germans attacked leading with their Panthers followed by the Mark IVs spread out behind. During the ensuing offensive the German armored units made some initial gains, but were continually attrited by the AT strongpoints in depth and by the repeated counterattacks by the Russian armored reserves. Manstein relates,

After heavy fighting in which it had to beat off counter-attacks by enemy reserves, it [Ninth Army] managed to deepen the penetration by a few more miles... the attack through the enemy's deeply echeloned defenses proved difficult enough and only made slow progress. [32]

Unable to achieve a quick decisive victory, Hitler decided to call off the offensive in order to divert divisions to counter the threat of the Allied landings in Italy.

The Russian defensive tactics during Operation 'CITADEL' were very effective in attriting the massive columns of the German Northern and Southern Army Groups. The layered, web-like, defense consisting of AT strongpoints was designed to draw German armor

into the close-range and deadly flanking fires of the AT guns. Infantry was used to protect the AT positions from enemy infantry and also destroy tanks at close range. The Russian infantryman was trained to kill tanks in close combat and he was very good at it. He was trained to allow German tanks to pass over his position and then engage them from the rear with the American made bazooka and many improvised AT weapons such as the Molotov cocktail. The use of these tactics also proved very effective at separating the German tanks from their infantry. In forest fighting the Russian infantryman believed he could conquer the tank and it was the formidable Russian infantry defense that broke up the momentum and speed of the German 'blitzkrieg' tactics. [33] It can be seen once again that the indirect approach in the defense can be effective at attriting and wearing down enemy armor so mobile reserves can be used to stop the tactical penetration and strike the decisive blow.

The Russian tactic of 'antitank areas' and fire control procedures were very similar to the tactics practiced by U.S. airborne infantry companies in the AAD. The airborne company commander controls from six to twelve major AT systems and 'concentrates' their fires into a single target area in 'broadsides' and 'enfilading' fires. The AAD concept allows for tanks to make a tactical penetration into the main battle area in order to place coordinated flanking fires into the armor engagement areas. If some tanks break through the engagement area it is not a major problem because they will just proceed deeper into the web-like defense. Like the Russian defense at Kursk, the AAD relies upon the infantryman to protect the AT positions and also strip the

enemy infantry from his tanks.

BATTLE OF SICILY

The Allied airborne operations in Sicily in July 1943, demonstrated that airborne troopers with light antitank weapons could provide a credible defense against armored forces. During the Sicily invasion, the 505th Regiment of the 82nd Airborne Division played a key role in delaying and disrupting the Hermann Goering Panzer Division long enough for the 1st and 45th Infantry Divisions to get established ashore. On the evening of 9 July, General Conrath's western Kampfgruppe consisting of two tank battalions (90 tanks), two armored artillery battalions, one armored recon battalion, and one armored engineer battalion began moving through the town of Niscemi toward the beach landing at Gela. LTC Gorham, the commander of 1st Battalion, 505th Parachute Regiment, had the mission of defending the high ground east of Gela (see sketch at Figure 6). In spite of a widely scattered jump, Gorham managed to gather about 100 troopers under his control to block the movement of the Kampfgruppe coming from Niscemi. Throughout that day the paratroopers fought off the German tanks and infantry. Using the bazooka (2.36" rocket launcher) as their primary antitank weapon they knocked out the first four tanks of the column and then proceeded to repel numerous infantry assaults. The next day, LTC Gorham personally fired at a tank with a bazooka and was killed by return fire. On the 11th of July, the Kampfgruppe finally broke through the airborne roadblocks but by then the 1st Infantry Division was well established on the beachhead. [34] The other Kampfgruppe which had headed toward Scoglitti to repel the 45th Infantry Division

was never able to get through the defenses of the 3rd Battalion, 505th Infantry which had deployed along Biazza Ridge. Although the airdrop had not gone very well, once on the ground the small groups of troopers caused tremendous confusion and disruption of German attempts to reach the beachheads. The British airborne troops also experienced some success against tanks as related by their commander General Swing:

...one team of airborne troops, equipped with light howitzers and the two-man antitank weapon (bazooka) was responsible for the destruction of at least thirteen German tanks, which rushed to stem the assault...Some of the tanks were the heavily armored monster Mark VIs...For two days this particular combat team fought the enemy...If that combat team had not been on the spot when the Germans attacked they might have been able to roll up our whole line and drive our troops into the sea. " [35]

The German General Karl Student summed up the effect of the airborne operations at the Battle of Sicily:

The Allied airborne operation in Sicily was decisive ... if it had not been for the Allied airborne forces blocking the Hermann Goering Armored Division from reaching the beachhead, that division would have driven the initial seaborne forces back into the sea. I attribute the entire success of the Allied operation to the delaying of German reserves until sufficient forces had been landed...to resist the counterattacks by our defending forces... [36]

After the Sicily operation the 82nd Airborne Division began an intensive antitank training program. The bazooka had proven to be a marginally effective weapon against German armor so the troops began using knocked-out German tanks for experiments to test their vulnerability to U.S. antitank weapons. The troopers also practiced fire and movement techniques to destroy tanks. Bazooka gunners were held in the highest esteem and were even awarded an insignia consisting of crossed bazookas and a bolt of lightning in regimental colors to be worn above the left breast

pocket. [37]

What lessons from the Sicily airborne operation can be applied to the AAD? First, it would appear that well-trained, disciplined and motivated soldiers under good leadership and armed with only light antitank weapons and some AT mines can do a credible job of holding off armor for several days without significant reinforcement. Secondly, the courage and bravery of the individual soldier should not be discounted when it comes to the issue of man against tank. Over and over, accounts of individual bravery result in armored columns coming to a screeching halt. In later operations of the 101st and 82nd Airborne at the Battle of the Bulge these airborne units were instrumental in stopping the Fifth and Sixth Panzer Armies. During the Battle of the Bulge the 82nd held off three panzer divisions with little more than bazookas, captured panzertausts, and some 57mm antitank guns. Thus, the key lesson that comes out of these battles is that excellent leadership, good training, and disciplined soldiers are essential if the AAD is to succeed.

Key Lessons Applicable to the Antiarmor Defense

What common threads run through these five historical vignettes that apply to the 82d Airborne Division Antiarmor Defense Concept? What were the critical factors that led to success? Some have already been covered but it is worth recapping and highlighting the important ones at this point.

ISOLATING INFANTRY FROM TANKS

This appears from the historical examples to be an absolute necessity if infantry is to defeat armor. In the previous examples the enemy infantry was always rendered ineffective by the effective use of artillery, mortars, and infantry small arms fire. Once the infantry was disposed of the tanks were easy prey for the antitank guns that were well dug-in and concealed. Without infantry around to locate and neutralize the AT guns the tanks were usually forced to withdraw from battle. Ardant Du Picq summed this concept up as well as anyone when he said,

Make the enemy believe that support is lacking; isolate, cut off, flank, turn, in a thousand ways make his men believe themselves isolated. [38]

As stated previously, this important lesson is today being 're-learned' by U.S. Army battalions at the National Training Center (see endnote 126). Breaking the integrity of the combined arms attack is a fundamental principle of the AAD. This point ties in closely with the next one - use of the indirect approach.

INDIRECT APPROACH

The indirect approach as expoused by Fuller and Liddell-Hart and as incorporated into the AAD concept appears to be the keystone

to a successful infantry defense against armor. This involves attacking the enemy armor continuously from directions the enemy does not expect in order to achieve initial surprise and to wrest the initiative away from him. The element of surprise results not only in the unexpected physical loss of materiel but also in the loss of psychological cohesion, command and control, and balance. At the lowest level, the indirect approach seeks to place flanking and rear fires on armored units in order to hit the most vulnerable part. As General Smith said in his letter to B.H. Liddell Hart, "The attitude of the mind is important...The object of obliquity is to find the chink in the armor, the mental armor at that." [39] As seen in the examples, the indirect approach in the defense should always have an offensive arm with which to strike the counterattack at the decisive moment. In the AAD this offensive arm consists of the Sheridans and the highly mobile attack helicopters.

USE OF TERRAIN AND PREPARED DEFENSIVE POSITIONS

The requirement for a good terrain reconnaissance and prepared defensive positions is a must. Ideally, the infantry positions should be in rugged, armor restrictive terrain but that will not always be the case as in the battles that have been discussed where the infantry terrain was trafficable by tanks. If the terrain is not ideal infantry terrain then the infantryman must be given the time and materials to prepare good, camouflaged positions and artificial obstacles. At the Battle of Medenine even a dummy minefield was very beneficial in diverting a tank unit. Both at Medenine and at Alamein, entire tank units retreated from battle because they could not locate the AT positions.

ENGAGEMENT RANGES

The AAD Handbook and army doctrinal literature emphasize engaging enemy armor at maximum range with antiarmor weapons systems (particularly the TOW) in order to take advantage of the TOW stand-off range. [40] However, in the historical review it was borne out that often the defender chose to bait the armor into engagement areas that were only 200-400 meters from the prepared AT gun positions. It appears that this was done in order to kill as many tanks as possible during the initial engagement thereby maximizing the advantages of surprise that can be accrued by a violent and sudden initiation of fire. Our doctrine calls for the initiation of fires at ranges of 3,000 meters or greater when possible but once engaged the element of surprise is gone and the enemy then has the opportunity to maneuver against the defense. By engaging at close range there may be an opportunity to engage more targets with all AT weapons systems and the enemy's ability to react is degraded by the shock. Du Picq said, "...the only way of giving the advantage to one side is by surprise. A man surprised, needs an instant to collect his thoughts and defend himself; during this instant he is killed if he does not run away." [41] Perhaps this helps explain the withdrawal of the panzer divisions from battle at Medenine when they received violent initial casualties at close-range.

The historical perspective would indicate that the indirect approach as used in the AAD is a valid concept for a light force to use against armor. Even Rommel near the end of the war came to the conclusion that the best defense against the tank was the

antitank gun. In 1944, he related this account to LTG Pritz Bayerlein,

You...remember how difficult we found it to attack the British antitank screens in Africa. It needed first class, highly trained troops to achieve anything at all... If we can give the German infantry division first fifty, then a hundred, then two hundred 75mm antitank guns and install them in carefully prepared positions [in great depth], covered by large minefields, we shall be able to stop the Russians...they are bound to bog down...they'll have to gnaw their way through slowly." (42)

IV. DOCTRINAL IMPLICATIONS

A review of current doctrinal manuals indicates that U.S. Army doctrine does not advocate the use of infantry in the antiarmor role unless it is on infantry favorable terrain (see excerpts below). Additionally, doctrinal manuals appear to have confusing and contradictory verbiage in describing the antiarmor role of infantry as can be seen in the following examples:

When it is necessary to defend along a mounted avenue of approach, tank and mechanized units are provided to the brigade by division. [43]

The airborne brigade is not adequately equipped to defend against mounted forces. However, when it must do so the brigade organizes positions in depth...[44]

...infantry brigades are normally employed only against enemy infantry. Infantry is not normally employed against mechanized or armored forces. [45]

The infantry battalion, because of its limited mobility is not ideally suited to...defend against a mechanized enemy on terrain favorable to armored or mechanized movement. [46]

What doctrine we do have is very sketchy. For example, Field Manual 7-20, The Infantry Battalion, devotes only three pages in a superficial manner to the subject of infantry defense against armor. [48] In contrast, there are 350 pages of instruction in TC 7-24, Antiaarmor Tactics and Techniques for Mechanized Infantry.

From the historical perspective, it is apparent that the WWII infantryman was prepared to fight enemy armor on any terrain from the deserts of Africa to the steppes of Russia to the Ardennes Forest. There are definitely certain types of terrain that maximize the infantry's inherent relative capabilities and minimize its limitations, however, the infantry unit may not have

a choice as to where it will fight. As stated in the AAD Handbook, any light infantry unit could be deployed on little notice and find itself confronting an armor threat. (7) As the 82d and 101st Airborne Divisions were recovering from Operation MARKET-GARDEN in December 1944, they never would have expected that with only hours notice they would be fighting the spearheads of the Fifth and Sixth Panzer Armies. The 82d, in fact, was opposed by three panzer and one panzergrenadier division. In current terms, if the Soviets were to achieve a breakthrough in the NATO defense and if all mechanized units were committed to the line, a light division could very well get a mission to block the penetration on less than ideal terrain. In summary, our doctrine for the employment of infantry forces against armor does not adequately prescribe tactics and techniques for the infantry to use against armor. Perhaps the premise of who the infantry unit can be expected to fight on the current and future battlefields also needs to be reviewed. It would be wise for Army doctrine to prepare the infantryman for the worst case and not the ideal case.

V. TRAINING IMPLICATIONS

The American infantryman must have confidence in himself, his equipment, and his leadership if he is expected to fight tanks on the modern battlefield. This confidence comes from excellent physical training, rugged and realistic antiarmor training, an effective antitank weapon, and the earned trust in their leaders. Our infantrymen must be taught to master "tankophobia" - the fear of tanks. If our soldiers are to fight tanks in close combat, and they will, then their training should be geared to prepare them for the psychological shock that they will encounter. This requires a no-nonsense, realistic and yes, even a dangerous antiarmor training program. Some armies have recognized the need to train their soldiers in antiarmor close combat. It was seen in the historical perspective what kind of training the Russian and German soldier on the Eastern Front received during WW II. The French army trains their soldiers to lie on the ground until the soldier can touch the track or glacis plate of a moving tank whereupon he then rolls away allowing the tank to pass. [49] The Russian army today has perhaps one of the most serious and realistic antiarmor training programs which is summed up in this philosophy,

To the man whose courage fails him the tank seems to grow to colossal proportions-a giant which overtakes and crushes the man. To the man who accepts the battle, the tank is merely a machine, while he, the man, is the King of nature." [50]

The Soviet airborne unit antiarmor training is a direct extension of this philosophy. The training is almost all hands-on, performance oriented, and conducted by the platoon commander and the company commander. [51] Once the platoon commander trains

his soldiers in the basic antitank skills they are turned over to the company commander who instructs each platoon on close combat techniques in fighting armor. [52] He demonstrates such tasks as engaging armored targets with hand antitank grenades, antitank mines, grenade launchers, machineguns, and the use of antitank weapons. [53]

Ian Hogg, in his speech titled, "Infantry Against Armour" talks about the importance of training for antiarmor combat,

I speak as a man, trained in my youth as an antitank gunner, and so far as I was concerned tanks were ...sitting targets, a pushover for any weapon capable of defeating their protection... it was a result of the way I was trained having every confidence in the weapon I was using-a 17 pounder gun-and I knew damned well I could defeat anything which appeared in my telescope. [54]

During the 1973 Arab-Israeli War, the Israelis took horrendous tank casualties from single Arab soldiers in trenches who would wait until the tanks were right up on them before firing with the RPG-7. [55]

Therefore, it is obvious that there is a definite requirement for the American infantryman to be trained to overcome his fear of tanks in close combat and to gain confidence in his own capabilities, his equipment, and his leadership. Even if he never uses these close combat skills, such a rigorous training program will help the soldier overcome his natural fear of tanks and create an offensive spirit. [56] If the AAD or any other infantry defense against armor is to be successful then our infantrymen must be trained to overcome "tankophobia" and view the tank in its proper perspective as a machine that has strengths but also weaknesses.

VI. MATERIEL IMPLICATIONS

The 1973 Arab-Israeli War demonstrated the tremendous destructive capability of the antitank guided missile (ATGM), but it also demonstrated the effectiveness of the AT gun and rocket launcher once the close combat began. [57] The main lesson learned here as well as from the historical perspective is that there is a requirement for complementary AT weapon systems for different situations. In 1973, the Israelis were caught very much by surprise by the effective Egyptian antitank screens consisting of the Soviet long-range Snapper and Sagger ATGMs and the very effective RPG-7 rocket launchers. [58] The 1973 War also showed that the small one-man portable antitank weapon (RPG-7) is just as important now as the panzerfaust was in WW II. [59] The most effective antitank defense is the one that combines the strengths of several effective and well-balanced tank killing systems - both missiles and guns. [60] General Gavin was seriously grieved by the fact that his soldiers were being killed in the process of trying to engage German armor with the ineffective 2.36 inch rocket launcher so they relied instead on captured stocks of the German panzerfaust. [61]

In summary, it is a sad commentary that this is still the weak link in the U.S. Army's inventory of antiarmor weapons. For several years the M-72 LAW has been acknowledged as being deficient in armor penetrating capability. As a quick fix, the Swedish-made AT-4 is currently being purchased to remedy this deficiency and is being fielded initially by the 82d Airborne Division and Ranger units. [62] The main observation to be made here is that history has shown that the light antitank weapon is a key system in the

antiarmor battle in that in spite of our desire to engage at long range, combat often becomes decisive at the short range of 200-500 meters. Therefore, the AT weapon technology must keep pace with developments in armor design. We cannot and must not put our infantrymen on the modern battlefield without an effective short-range, fire and forget antitank weapon.

VII. CONCLUSION

The 82d Airborne Division Antiarmor Defense Concept is a viable concept for infantry defense against Soviet-type armor in the Central European/NATO environment. The use of the indirect approach in the defense provides infantry units with an operational concept that enables them to attrit and destroy the integrity of the armor attack throughout the entire depth of the defense. The historical examples cited bear this out and the results of AT weapons systems during the 1973 Arab-Israeli War have verified the effectiveness of the infantryman against armor when defending with ATGMs and light antiarmor weapons.

The AAD is compatible with other missions that the 82d Airborne Division might perform in Central Europe. Some of those missions are: seizure and defense of key terrain (airhead) until ground linkup or withdrawal, occupy areas or reinforce units beyond the reach of other maneuver units, and conduct airborne or air assault operations in the same type of missions that a regular infantry unit might perform. [63] Other possible missions might be to defend infantry favorable terrain such as built-up areas, mountainous areas, and forested areas in an economy of force role.

General (ret) William E. DePuy makes a strong case for using light infantry in Central Europe in the mountainous region of the Hohe Rhon and the Spessart Mountain Ranges thus enabling the V and VII Corps to concentrate their efforts and forces on the high-speed avenues on either side of this complex. [64] This would be ideal terrain for the conduct of the AAD as would much of the built-up areas in Central Europe.

Regardless of what mission is assigned, the implied mission of antiarmor defense cannot be ignored. The German armored offensive in the Ardennes, in December 1944, has shown us that even in difficult terrain we must still be prepared for the worst case. The enemy has shown that he will do what we expect least. Therefore, the infantry unit must be prepared to fight on any type of terrain under any conditions. If the factors of METT-T allow, the infantry commander should set up his defense on armor restrictive terrain as doctrine dictates. However, doctrine must make better provisions for the worst case which might be defending on armor favorable ground. Doctrine should provide the infantry antiarmor defense more than shallow treatment. As history has shown, infantry can be effective against armor on less than ideal terrain, therefore we should train and prepare for this mission.

In terms of training, it should be noted that the infantryman needs to be trained for close combat with tanks. Even the 1973 War and the Israeli excursion into Lebanon revealed the tremendous effect that light antitank weapons manned by trained gunners can have on an armored force. Our soldiers should be trained to respect the tank for the danger it poses, but they also must be taught to control their innate fear of the tank. A rigorous program of antiarmor close combat training should be instituted in all infantry divisions. This involves much more than kneeling in a concrete culvert while a tank runs over the position or the firing of a LAW subcaliber round on a gunnery range. It involves teaching our soldiers every conceivable way of disabling, blinding, and destroying enemy armor. If the soldier has confidence in his ability to fight armor then he will stand and fight as well as

those valiant troopers of the 82d and 101st Airborne Divisions who fought armor at the Battle of the Bulge.

In conclusion, our infantry units must be prepared to fight armor anywhere and anytime. We cannot expect the enemy always to give us our choice of infantry favorable terrain, and because of the relatively rapid deployability of an infantry division we may find the infantry unit at the point of conflict before the arrival of heavy units. We cannot wait for a war to begin before we develop doctrine and tactics for the infantry antiaarmor defense. Doctrine must clearly state the purpose of infantry units in this role. Let us not be caught in the same state that our Army was in at the beginning of World War II when General Leslie McNair made these comments,

It is beyond belief that so little could be done on the [antitank] question in view of all that has happened and is happening abroad. I for one have missed no opportunity to hammer for something real in the way of antitank defense, but so far have gotten nowhere. I have no reason now to feel encouraged but can only hope this apathy will not continue indefinitely." [65]

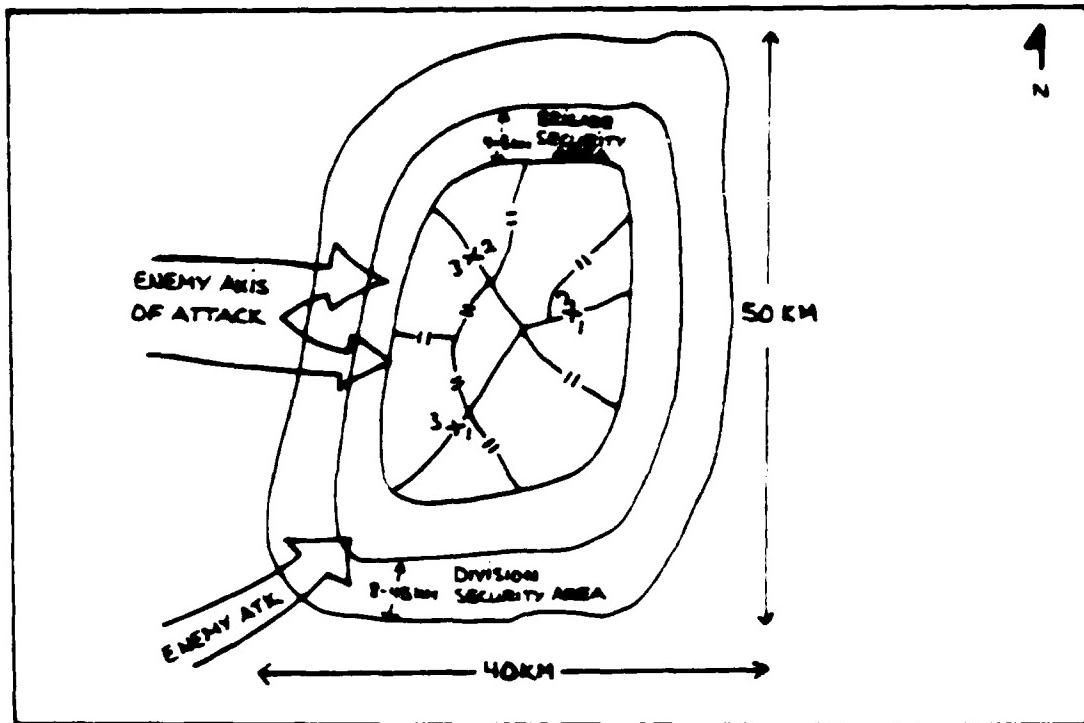


FIGURE 1
The Airborne Division Antiarmor Defense

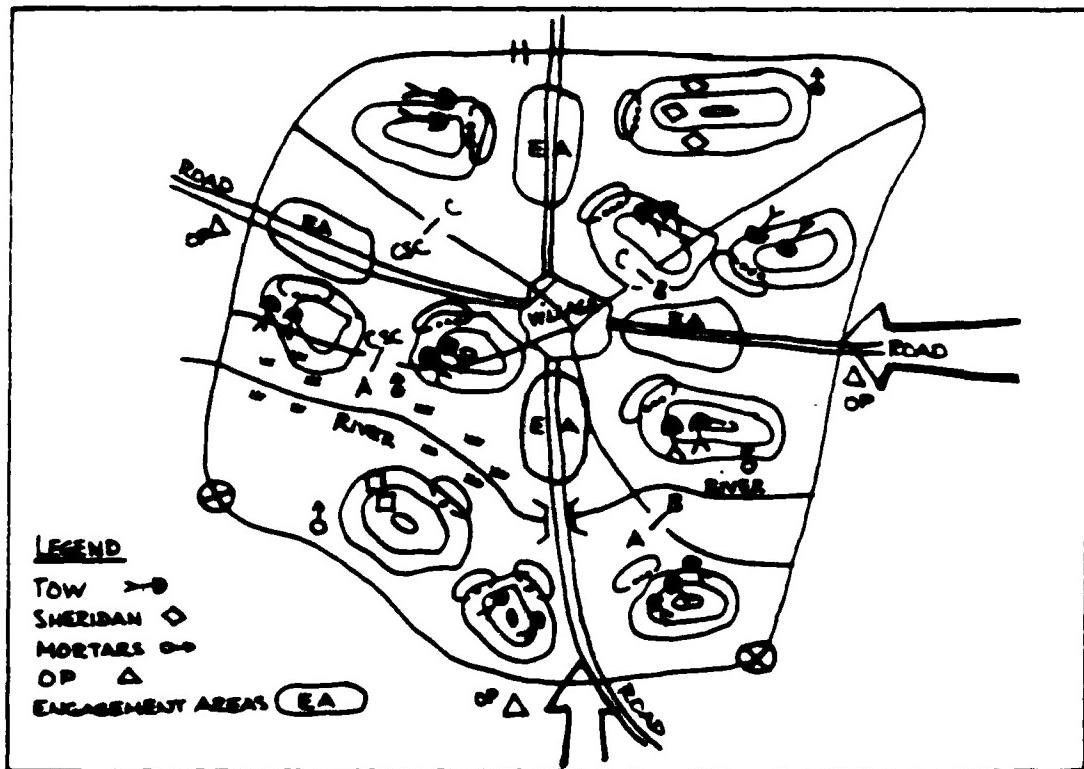


FIGURE 2
The Battalion Antiarmor Defense

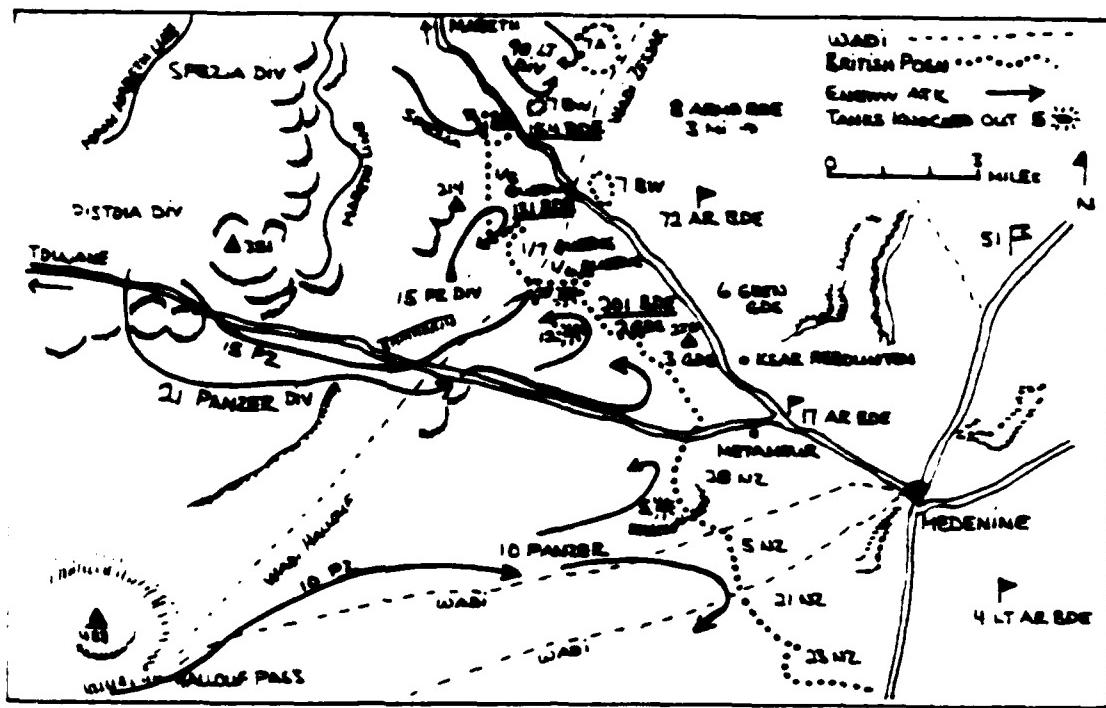


FIGURE 3
Battle of Medenine, March 1943

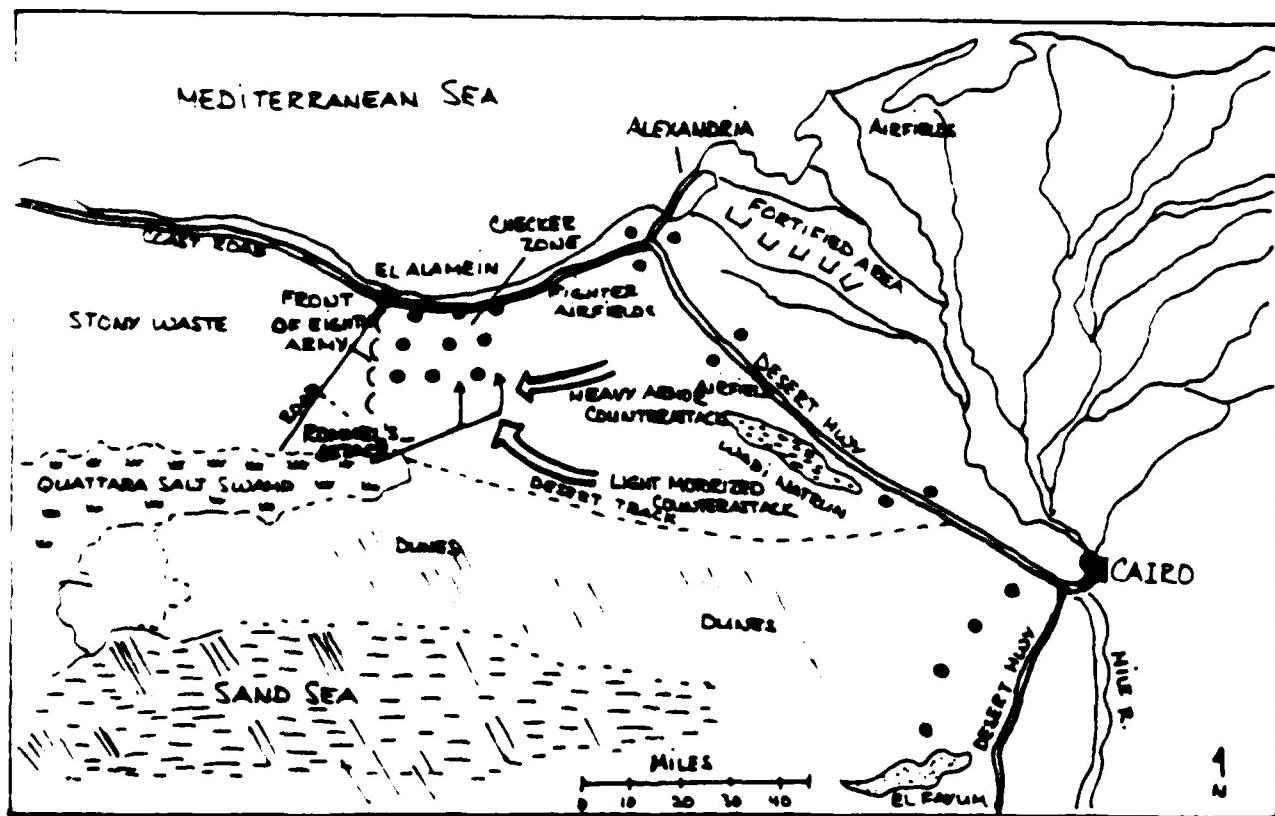


FIGURE 4
Battle of El Alamein, July 1942

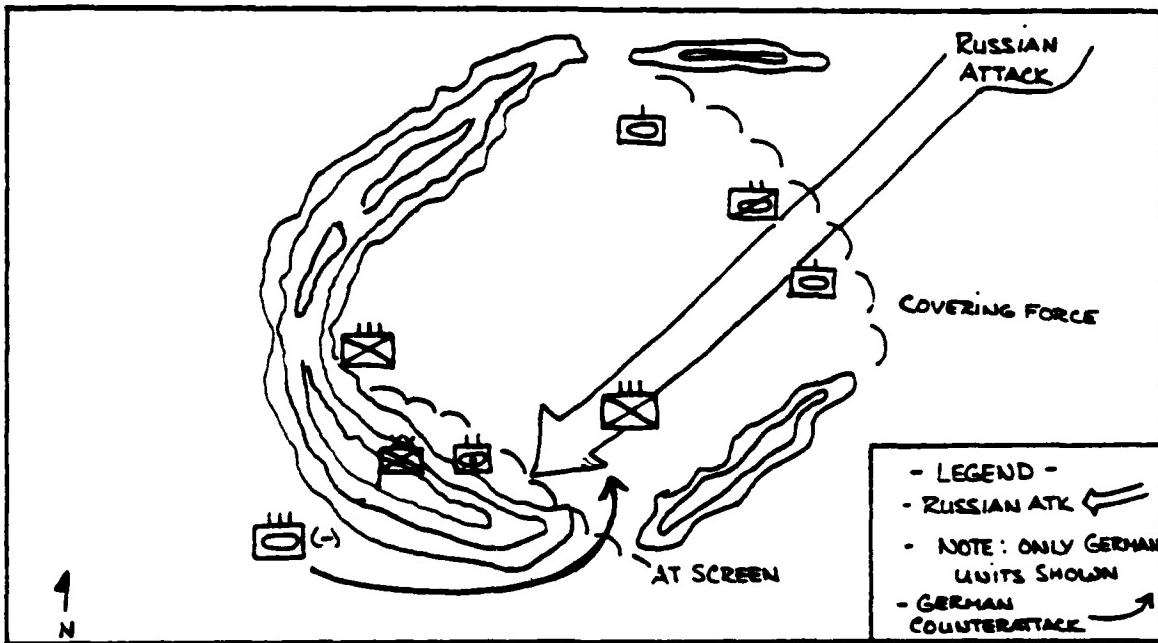


FIGURE 5
Battle of Targul Primos, May 1944

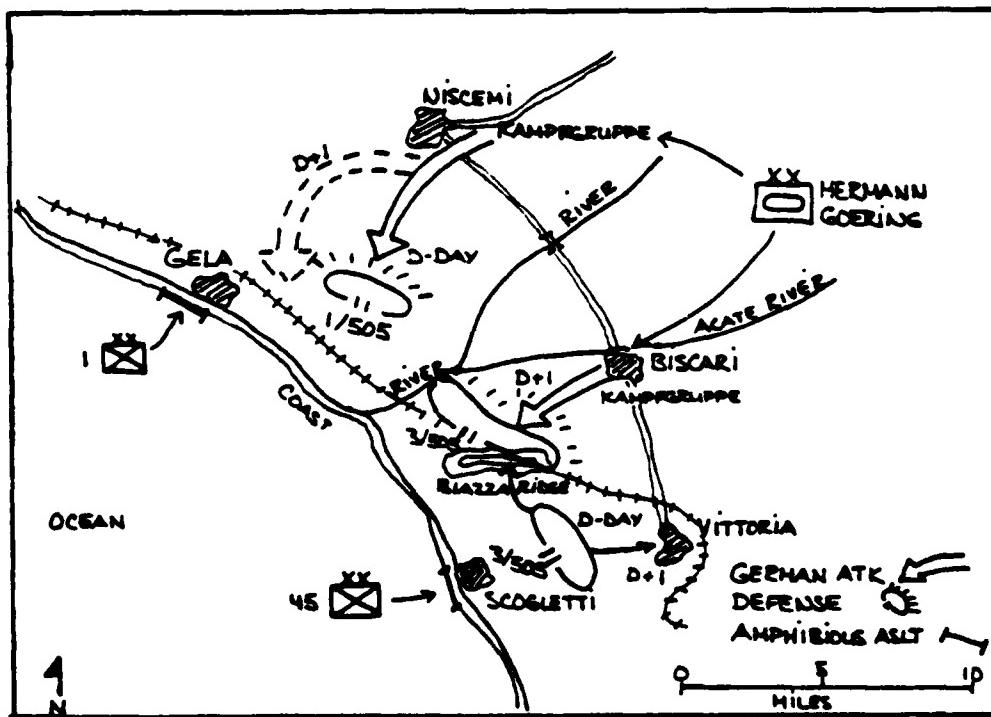


FIGURE 6
Battle of Sicily, July 1943

Endnotes

1. Ministry of Information, By Air to Battle - The Official Account of the British First and Sixth Airborne Divisions, (London, 1945), p. 134.
2. U.S. Army, Field Manual 7-30, Infantry, Airborne and Air Assault Brigade Operations, (Washington, DC, 1981), p.7-9
3. "The Anti-Armor Handbook", (Headquarters, 82d Airborne Division, Fort Bragg, NC., 1984), p. 1-1.
4. LTG James J. Lindsay, "Operational Maneuver", U.S. Army Aviation Digest, (May, 1986), p. 3.
5. Airborne Antiaarmor Defense, (Fort Bragg, NC, 1977), p. 2.
6. The 82d Airborne Division Airborne Antiaarmor Defense Handbook, (Fort Bragg, NC, 1980), pp. 1-1, 1-2.
7. Ibid., p. 5-4.
8. Anti-Armor Handbook, (1984), p. 20-1.
9. Ibid., p. 1-1.
10. Charles Messenger, The Tunisian Campaign, (London, 1982), p. 67.
11. Ibid., pp. 65-68.
12. Ibid., p. 69.
13. Ibid., p. 69.
14. B.H. Liddell Hart (ed), The Rommel Papers, (New York, 1953), p.415.
15. Ibid., p. 416.
16. Messenger, The Tunisian Campaign, p. 70.
17. B.H. Liddell Hart, Strategy, (New York, 1974), pp.376-382.
18. Ibid., p. 376.
19. Ibid., p. 382.
20. John Weeks, Men Against Tanks, (New York, 1975), pp.79-80.

21. Hart, The Rommel Papers, p. 520.
22. Hart, Strategy, p. 384-385.
23. Richard E. Simpkin, Tank Warfare, (New York, 1979), p. 45.
24. Guy Sajer, The Forgotten Soldier, (London, 1985), p. 166.
25. Simpkin, Tank Warfare. This paragraph is a summary of pages 45-48.

26. Letter, Subject: "NTC Observations", (Headquarters, Fort Irwin, CA, 20 Nov 85), p. 4.
27. Simpkin, Tank Warfare, p. 47.
28. Field-Marshal Erich von Manstein, Lost Victories, (Novato, CA., 1982), p. 447.
29. John A. English, On Infantry, (New York, 1984), p. 109.
30. Ibid., p. 109.
31. Ibid., p. 109.
32. Manstein, Lost Victories, p. 448.
33. English, On Infantry, This account of the Russian infantryman is taken from pages 96, 97, 108, and 109.
34. James Gavin, Airborne Warfare, (Washington, DC, 1947), This account of the 505th Parachute Infantry Regiment is a summary of pages 1-17.
35. Keith Ayling, They Fly to Fight, (New York, 1944), p. 75.
36. Gavin, Airborne Warfare, p. 16.
37. James Gavin, On To Berlin - Battles of an Airborne Commander 1943-1946, (New York, 1978), pp. 45-46.
38. Ardant Du Picq, Battle Studies, (Harrisburg, PA, 1946), p. 121.
39. Hart, Strategy, pp. 384-85.
40. Airborne Anti-Armor Handbook, 1984, p. 20-8.
41. Du Picq, Battle Studies, p. 43.
42. Hart, The Rommel Papers, pp. 451-2.

43. FM 7-30, The Infantry Brigade, p. 4-18.
44. Ibid., p. 7-9.
45. Ibid., p. 1-4.
46. Field Manual 7-20, The Infantry Battalion, (Washington, DC, 1984), p.5-6.
47. Airborne Anti-Armor Handbook, 1984, p. 1-1.
48. FM 7-20, The Infantry Battalion, pp. 5-16 to 5-19.
49. William Powier, "Big Game in The Concrete Jungle-Urban Anti-Tank Warfare", Defence, (Whitton Press Ltd., Jul.,86), p. 326.
50. Ibid., p.
51. Robert Kuth, "Soviet Airborne Anti-Armor Tactics in the Defense", (U.S. Army Russian Institute, Garmish, GE, 1981), p.15.
52. Ibid., p. 15.
53. Ibid., p.15.
54. Ian Hogg, Speech titled, "Infantry Against Armor", (Boeing Light Infantry Conference, Seattle, WA, Sep 1985), p. 135.
55. English, On Infantry, p.185.
56. Ibid., p.220.
57. Weeks, Men Against Tanks, p. 185.
58. English, On Infantry, p. 188.
59. Weeks, Men Against Tanks, p.185.
60. Ibid., p. 185.
61. Gavin, On To Berlin, p. 223.
62. "Commandant's Notes", Infantry Magazine, (Fort Benning , GA, Sep-Oct 86), p. 3.
63. FM 7-20, The Infantry Battalion, p. A-4.
64. General (ret.) William E. DePuy, "Light Infantry: Indispensable Element of a Balanced Force", Reprinted in Dynamics of Battle Course Readings, (School of Advanced Military Studies, Port Leavenworth, KS, 1986), p.64.

65. Dr. Christopher R. Gabel, Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II, Leavenworth Paper No. 12, (Fort Leavenworth, Ks, 1985), p. 10.

BIBLIOGRAPHY

BOOKS

Ayling, Keith, They Fly to Fight. New York, NY: Appleton-Century Co., 1974.

Du Picq, Ardant, Battle Studies. Harrisburg, PA: Military Service Publishing Co., 1946.

English, John A., On Infantry. New York, NY: Praeger Publishers, 1984

Parrar-Hockley, Anthony H., Airborne Carpet: Operation Market-Garden. New York, NY, 1969.

Gabel, Christopher R., Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II. Leavenworth Paper No. 12. Combat Studies Institute, Fort Leavenworth, KS, 1985.

Gavin, James M., Airborne Warfare. Washington, DC: Infantry Journal Press, 1947.

Gavin, James M., On to Berlin. New York, NY: Viking Press, 1978.

Hart, B.H. Liddell, Strategy. New York, NY: Praeger Publishers, 1974.

Hart, B.H. Liddell,(ed), The Rommel Papers. New York, NY: De Capo Press, 1953.

Hickey, Michael, Out of the Sky: A History of Airborne Warfare. New York, NY: Scribner and Sons, 1979.

Hoyt, Edwin P., Airborne: The History of American Parachute Forces. New York, NY: Stein and Day, 1979.

Manstein, Erich von, Lost Victories. Novato, CA: Presidio Press, 1982.

Messenger, Charles, The Tunisian Campaign. London: Ian Allan LTD, 1982.

Ministry of Information, By Air to Battle - The Official Account of the British First and Sixth Airborne Divisions. London: His Majesty's Stationery Office, 1945.

Sajer, Guy, The Forgotten Soldier. London: Sphere Books Limited, 1977.

Simpkin, Richard E., Tank Warfare. New York, NY: Crane Russak and Co., 1979.

Weeks, John, Assault From the Sky. New York, NY: Putnam, 1978.

Weeks, John, Men Against Tanks. New York, NY: Mason/Charter, 1975.

MANUALS

Field Manual 7-20, The Infantry Rifle Battalion (Infantry, Airborne and Air Assault). Washington, DC: HQ Department of the Army, 1984.

Field Manual 7-30, Infantry, Airborne and Air Assault Brigade Operations. Washington, DC: HQ Department of the Army, 1981.

Field Manual 71-101, Infantry, Airborne and Air Assault Division Operations. Washington, DC: HQ Department of the Army, 1980.

Department of the Army Pamphlet No. 20-232, Historical Study, Airborne Operations - A German Appraisal. Washington, DC: HQ Department of the Army, 1951.

Airborne Antiarmor Defense. HQ, 82d Airborne Division, Fort Bragg, NC, 1977.

The 82d Airborne Division Airborne Antiarmor Defense. HQ, 82d Airborne Division, Fort Bragg, NC, 1980.

Anti-Armor Handbook. HQ, 82d Airborne Division, Fort Bragg, NC, 1984.

PERIODICALS, ARTICLES AND STUDIES

Burba, Edward, "Commandant's Note", INFANTRY. Fort Benning, GA, Sep-Oct 1986.

DePuy, William E., "Light Infantry: Indispensable Element of a Balanced Force", Reprinted in Dynamics of Battle Course Readings. School of Advanced Military Studies, Fort Leavenworth, KS, 1986.

Fowler, William, "Big Game in The Concrete Jungle - Urban Anti-Tank Warfare", Defence, Vol. XVI, Whitton Press Ltd., U.K., July 1986.

Hogg, Ian, "Infantry Against Tanks", lecture given at the Boeing Light Infantry Conference, Seattle, WA: September, 1985.

Kuth, Robert, "Soviet Airborne Anti-Armor Tactics in the Defense", U.S. Army Russian Institute, Garmisch, FRG, 1981.

END

5 - 87

DTTC